

## Exploring the Contributing Factors to Integrate Artificial Intelligence in Teaching Transactional Speaking

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### ABSTRACT

This study investigated the contributing factors in integrating the artificial intelligence-mediated communications into English language learning and teaching, with a focus on enhancing students' transactional speaking skills. It aimed to identify key elements that support the implementation of artificial intelligence in English language teaching and promote its effectiveness. The findings revealed that both students and teacher showed positive attitudes toward seven contributing factors in the integration of artificial intelligence in teaching transactional speaking i.e., English-immersive setting, fluency in speaking, pronunciation improvement, grammar accuracy, teacher involvement, and active participation. These factors significantly influenced the successful integration of artificial intelligence in enhancing students' transactional speaking skills.



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## INTRODUCTION

Artificial Intelligence advanced rapidly in various sectors, including education that offer numerous opportunity to enhance the learning and teaching experience (Crompton et al., 2024). The integration of artificial intelligence stems as one of the huge educational transformation, particularly in English Language Teaching. Natural Language Processing (NLP) and machine learning promises as the Language-related artificial intelligence in aiding the language learning and teaching such as speaking practice, simultaneous feedback, and immersive learning process (Kristiawan, 2024). However, with the advancement of artificial intelligence use in English language teaching, it is fundamental to take the contribution factors into account in providing an understanding of how Artificial Intelligence can be used to enhance the students' transactional speaking skills.

Language as the fundamental basis of human in communication has translated speaking as one of the essential language skills regardless writing, reading, and listening that needed to be focusing on in learning and teaching process. In line with Ha (2025), proposed that speaking serves as an essential to communicate meaning and as the primary medium to interact each other. As outlined in the English learning outcomes under the Merdeka curriculum, the students required to enhance their speaking skills, particularly for transactional speaking skills in English. Transactional speaking commonly used to interact by sharing thoughts, insights, passions, and perspectives. Furthermore, in the form of language learning, student use transactional speaking to exchange ideas or fact (Kaharuddin et al., 2018) that demonstrated through discussion, interview, or even role-play in the learning and teaching activities.

The emerge of technology-enhanced approach in English language learning and teaching promises the integration of artificial intelligence in education process. Prior to that, there are numerous opportunities that teacher can use to aid students in learning English through artificial intelligence integration such as speech recognition in supporting students with disabilities, students with multilingual, and those who can use artificial intelligence as tools for learning (Searson et al., 2024). Moreover, in the form of language learning, AI-based speech recognition technology can provide students to engage in like-real world of English that help to overcome communication barriers and actively participate in the class.

In enhancing students' speaking skills, teacher commonly faced a variety of students' difficulties such as limited students' vocabulary, students' confidence to speak in the classroom, linguistics challenges, difficulties in processing speech, thinking about grammar rules, and mispronunciation the stand as the most challenges part (Jaelani & Zabidi, 2020; Normawati et al., 2023; Sari et al., 2021). Therefore, the teacher needs to use an appropriate tool to help the students enhance their speaking skills in the English language learning process within the classroom as in a study by Fathi et al. (2024) that found artificial intelligence effectively enhance students' speaking skills in English language learning process.

Moreover, numerous previous related study has provided evidence of artificial intelligence integration in enhancing students' transactional speaking skills. As the study by Zou et al. (2023), This study explored the effects of integrating artificial intelligence (AI) with a social network-based interaction approach on students' English-speaking practice and skill development. Involving 70 undergraduate students from multiple universities in China, the research employed a triangulated method combining experiments, questionnaires, and interviews. The findings revealed that students responded positively and believed that Artificial Intelligence contributed to the improvement of various aspects of their speaking skills. Quantitative results from the experimental data also showed a significant increase in students' post-test scores, confirming the effectiveness of the approach.

In line with it, Qiao & Zhao (2023) then examined the effectiveness of AI-based instruction through the use of the Duolingo application in enhancing students' speaking skills and self-regulation. Using a mixed-methods design, Chinese EFL students were randomly divided into a treatment group and a control group for experiment. The treatment group received AI-supported instruction through Duolingo, which led to notable improvements in both their speaking performance and self-regulatory abilities. Students' speaking proficiency was evaluated across four key components: fluency, vocabulary, accuracy, and pronunciation.

Thus, the present study aims to evaluate the contribution factors that artificial intelligence provides in its integration in the English language learning and teaching process, particularly in enhancing students' transactional speaking skills. Indeed, Duong & Suppasetsee (2024) through their study proposed six possible factors in enhancing students' speaking skills i.e., English-immersive setting, fluency in speaking, pronunciation improvement, vocabulary mastery and grammar accuracy, teacher involvement, and active participation. Furthermore, these contributing factors are elaborated in the subsequent sections.

### 1. English-immersive setting

The most crucial factor in achieving accurate and fluent English speaking is participation in English-immersive setting. However, one of the main obstacles to practice speaking that involves difficult skills is a lack of exposure to English-immersive setting, particularly in the language learning process at school that limited by the time in the classroom. In circumstances where preparation is not possible, it necessitates direct communication between speakers (Lobanova et al., 2022). As a result, artificial intelligence becomes a useful educational tool for speaking practice in a convenient and accessible setting that able to engage the students in an English-immersive setting due to artificial intelligence advantages in aiding the learning process.

### 2. Fluency in speaking

According to Duong & Suppasetsee (2024) study, the use of artificial intelligence in teaching speaking revealed that students showed significant improvement in both fluency and accuracy following the treatment on its implementation in the classroom. Speaking fluency was notably enhanced that being a critical component of effective communication. Through consistent practice, artificial intelligence in learning enabled students to use appropriate hedging expressions, while also minimizing pauses and hesitation during speech.

### 3. Pronunciation improvement

Speaking elements that appear to be the main problems for EFL students and make it one of the hardest skills to learn. Teachers are unable to devote all of their attention to helping students improve their pronunciation in a short period of time. According to Gilakjani (2012), who emphasized the importance of pronunciation, said that the primary goal of teaching and studying any language is to enable students to communicate in the target language. Communication is a crucial concept to define. As a result, using artificial intelligence in the classroom to encourage all of the students to practice speaking is a suitable teaching strategy. Students who practiced using artificial intelligence had improved pronunciation for two reasons, according to Duong & Suppasetsee (2024) i.e., (1) they received feedback on their pronunciation from the artificial intelligence and (2) listened to the pronunciation several times.

### 4. Grammar accuracy

The students' vocabulary development was evident, as they acquired a wide range of new and contextually rich lexical items through interactive conversations. In addition, artificial intelligence supported this process by providing new vocabularies (Duong & Suppasetsee, 2024). Grammatical accuracy also improved following the treatment using artificial intelligence in language learning process, facilitated by an inductive learning approach that encouraged students to infer grammatical rules through speaking practice in the form of sentences emerged in the artificial intelligence.

### 5. Teacher involvement

In language learning and teaching, artificial intelligence emerged as a technology that aids teachers in the process of teaching. According to Wei (2023), artificial intelligence served as a compass that directs teachers in creating demanding learning environments that foster development and skill acquisition. Artificial intelligence helps students to learn more effectively under the suitable integration into the right curriculum and training of the teachers.

### 6. Active participation

Demotivated willingness to speak English in class is one of the notable problems with students' English-speaking skills (Duong & Suppasetsee, 2024). As a result, students' opinions about the use of artificial intelligence indicated that they find it enjoyable in learning language. It gives students additional chances to practice speaking consistently and gives them the chance to interact with their peers.

## RESEARCH METHODS

This study implemented a descriptive qualitative research method due to its fundamental role in comprehending particular issues to develop an understanding towards its problems (Creswell, 2009: 22). Furthermore, this method employed to explore the contribution factors in the integration of artificial intelligence towards students' transactional speaking skills enhancement.

The study involved ninth-grade students and the English teacher from the SMP Tahfidz Mutiara Al-Akbar, Makassar, Indonesia. A total of 9 respondents consisted of 8 students and a teacher.

Data was collected through questionnaire under evaluation questionnaire to evaluate the integration of artificial intelligence in language learning and teaching process. Roopa & Rani (2012) explained that questionnaire stems as a tool consisting of a series of questions designed to gather relevant information on a particular topic. In the present study, the researcher assessed both teachers and students where teacher acted as an instructor and students actively engaged in the teaching and learning process.

There are four optional categories include in the questionnaire i.e., Strongly Agree (SA), Agree (A), Disagree (D), Strongly Disagree (SD) under the likert scale categories to indicate whether the positive attitude below:

**Table 1 The Categories of Attitudes**

Agreement Level	Attitudes
Strongly Agree	Positive
Agree	
Disagree	Negative
Strongly Disagree	

Data was analyzed qualitatively using qualitative descriptive analysis. The process of the analysis includes data condensation to focus on information needed, data display to simplify the data into table, graph, etc., and drawing conclusion to conclude the data interpretation towards its display.

## RESULTS AND DISCUSSION

The evaluation of contributing factors in the integration of artificial intelligence in English language learning and teaching both from the students and the teacher. The data derived from the evaluation questionnaire that further shown in the following table:

**Table 2 The Students Attitudes Towards the Contributing Factors in Integrating Artificial Intelligence in English Language Learning**

No	Affecting Factors	SA	A	D	SD
1.	The artificial intelligence creates an English-Speaking environment to practice speaking.	7 87.5%	1 12,5%		
2.	The artificial intelligence helps to enhance your speaking with accurate pronunciation	8 100%			
3.	The artificial intelligence supports you for vocabulary mastery and grammar accuracy through inductive learning methods.	8 100%			
4.	The artificial intelligence integration in the learning process promotes interactive speaking practice.	8 100%			
5.	The artificial intelligence can be used flexibly to support speaking practice.	8 100%			
6.	The artificial intelligence increase your involvement in classroom activities.	8 100%			

Based on the data that shown on the table above related to contributing factors in integrating artificial intelligence on English language learning and teaching, in particular to enhance students' transactional speaking skills. Thus, it can be seen that the students indicated the highest agreement in almost all statement. In which a significant majority (97.92%) strongly agreed that artificial intelligence creates an English-Speaking environment to practice speaking, enhance students' speaking with accurate pronunciation, supports students for vocabulary mastery and grammar accuracy through inductive learning methods, integration in the learning process promotes interactive speaking practice, used flexibly to support speaking practice, and increase students' involvement in classroom activities. Then, there is a student (2.08%) agrees that artificial intelligence creates an English -Speaking environment to practice speaking.

**Table 2 The Teacher Attitudes Towards the Contributing Factors in Integrating Artificial Intelligence in English Language Teaching**

No	Affecting Factors	SA	A	D	SD
1.	The artificial intelligence creates an English-Speaking environment to practice speaking.		√		
2.	The artificial intelligence helps to enhance students' speaking with accurate pronunciation		√		
3.	The artificial intelligence supports students for vocabulary mastery and grammar accuracy through inductive learning methods.		√		
4.	The artificial intelligence integration in the learning process promotes interactive speaking practice.	√			
5.	The artificial intelligence can be used flexibly to support speaking practice.	√			
6.	The artificial intelligence increase students involvement in classroom activities.	√			

Furthermore, as presented in the table above related to the teacher attitudes that showed positive attitude concerning the contributing factors. It can be seen that the teacher strongly agrees towards the integration of artificial intelligence in the learning and teacher process that promotes interactive speaking practice, flexibly to support speaking practice, students' involvement in classroom activities. Moreover, the teacher agrees on the statements that artificial intelligence creates an English -Speaking environment to practice speaking, helps to enhance students' speaking with accurate pronunciation, and

supports students for vocabulary mastery and grammar accuracy through inductive learning methods. Exploring the contribution factors in the integration of artificial intelligence aid to tailor the implementation of artificial intelligence in the learning and teaching process.

The contribution factors were coded into three classifications i.e., English -immersive setting, language skills enhancement, and Classroom dynamic that discussed below:

#### 1. English-immersive setting

This factor highlights the persistent issue of limited exposure to English -immersive setting for students to practice speaking at school, which remains a fundamental concern. Therefore, the integration of artificial intelligence into English language learning and teaching serves to address this gap by providing a simulated English-immersive setting. In the present study, the use of SpeechAce in the classroom offered both speaking practice and assessment opportunities, functioning as an interactive English-immersive setting that encouraged student learning and engagement.

#### 2. Language skills enhancement

In relation to the previously discussed factor of the English -speaking environment, artificial intelligence plays a significant role in enhancing students' language skills through the features embedded in AI-based teaching materials. These include AI tools such as SpeechAce, as well as integrated components such as language content, activities, tasks, and supplementary materials that collectively support English language learning and teaching within an AI-integrated framework (Kaharuddin & Yassi, 2018).

Moreover, as indicated by the findings, both students and the teacher expressed positive attitudes toward these factors, particularly in terms of language skill development. Through the speaking practices and assessments facilitated by SpeechAce, they experienced several contributing elements, including: (1) improved speaking fluency through repeated practice and pronunciation drills, and (2) vocabulary enrichment gained from interacting with the artificial intelligence and during speaking sessions, which also contributed to greater grammatical accuracy.

#### 3. Classroom Dynamic

As the determining variables to open with AI literacy in constructing an appropriate learning environment through artificial intelligence integration, teachers played a crucial role in integrating AI in English language learning and teaching. Additionally, with constant speaking practice provided by the AI-based teaching resources, kids feel more involved in the classroom. As the primary player in the integration, artificial intelligence provides pupils with a classroom setting that is similar to that of a native speaker.

## CONCLUSION

The investigation of contributing factors in the integration of artificial intelligence on English language learning and teaching that both of the students and teacher showed positive attitudes. The contribution factors including English-immersive setting, fluency in speaking, pronunciation improvement, grammar accuracy, teacher involvement, and active participation. Moreover, the present study classified the contribution factors into three classifications i.e., English -immersive setting, language skills enhancement, and classroom dynamic.

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